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Ribble

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(54) **METHOD FOR ASSESSING THE
CONDITION OF A TISSUE SAMPLE WITH
COHERENT ELECTROMAGNETIC
RADIATION**

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See application file for complete search history.

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(57) **ABSTRACT**

A method of assessing a tissue sample includes the steps of:

- 1) splitting source electromagnetic radiation into:
 - a) sample arm radiation directed in a Z direction toward
a sample thereby illuminating the sample at a first
selected XY coordinate pair of the sample, and
 - b) reflector arm radiation directed toward a reflector so
that the reflector arm radiation travels a path length;
- 2) interfering sample-scattered electromagnetic radiation
with reflector-reflected electromagnetic radiation
thereby establishing an interference pattern associated
with the sample;
- 3) comparing the sample interference pattern to a refer-
ence interference pattern; and
- 4) reaching a conclusion about the sample based on the
comparison.

12 Claims, 13 Drawing Sheets

